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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,749	12/19/2001	Joseph D. S. Deng	JCLA8479	9129

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02/03/2003

EXAMINER

HOLLINGTON, JERMELE M

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 02/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/033,749

Applicant(s)

DENG ET AL.

Examiner

Jermele M. Hollington

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-23 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 6) ☐ Other

## DETAILED ACTION

### *Information Disclosure Statement*

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the examiner on form PTO-892 has cited the references, they have not been considered [see page 2 paragraph [0005], lines 1-2].

### *Drawings*

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a coaxial transmission structure [claim 7], a multi-layered microwave circuit [claims 9 and 17], a vertical connector [claims 10 and 18], a matching circuit device [claims 11 and 19], a connector [claim 16], must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the fixed end as described in the specification on page 6, lines 13-14. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP §

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608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Objections*

5. Claim 16 is objected to because of the following informalities: the phrase "the planar transmission structure" should be changed to --a planar transmission structure-- in order to avoid lack of insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.
6. Claim 21 is objected to because of the following informalities: the phrase "the substrate" should be changed to --the wafer-- in order to avoid the confusion of the probe tip probing the wrong element. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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8. Claims 1-23 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 1, 8 and 16, the disclosure of the invention does not provide a full, clear and concise meaning of "soft" of a soft multi-layered dielectric substrate. It is not clear from the disclosure what soft material the multi-layered dielectric substrate is made out of to be consider soft.

For examination purposes, the examiner is taking the position that any type material could be used for the multi-layered dielectric substrate since the word "soft" does not provided a patentable distinction in the claimed invention. Since claims 2-7 depend off of claim 1, claims 9-15 depend off of claim 8 and claims 15-23 depend off of claim 16, they are also rejected for the above reason.

Regarding claim 2, it is not clear in the disclosure what is the concise meaning of "a medium." In the claim, it describes that a "metal probe tip is suspended without being supported by a medium." On page 6, lines 5-6 and page 7, lines 12-13, it states: "The probe tip... is suspended and has a claw shape with the air as a medium." Base on the previous statement in the disclosure the claim limitation would be considered as the metal probe tip is suspended without being supported by air.

For examination purposes, the examiner is taking a position that any material or object could be used to support the metal probe tip other than air.

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9. Claims 1-23 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1, 8 and 16, the disclosure of the invention does not provide a full, clear and concise meaning of "soft" of a soft multi-layered dielectric substrate. See further explanation given above in item number 8.

Regarding claim 2, it is not clear in the disclosure what is the concise meaning of "a medium." See further explanation given above in item number 8.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

11. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 8, and 16, the claims are indefinite because the disclosure does not particularly point and distinctly claim what is the meaning of "soft" of a soft multi-layered dielectric substrate. See further explanation given above in item number 8.

Regarding claim 4, the disclosure does not particularly point what is "a limited angle" of rotation of the metal probe tip. On page 6, lines 7-8, it states: "...the probe tip 102 can move up and down and rotate within a limited range while measuring an uneven or non-planar object." On page 6, lines 16-17, the metal probe tip 102, allows movement of rotating with a limited angle 110..." However, the disclosure does not provide any range or angle of rotation for the probe tip.

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For examination purposes, the examiner assumes that any range or angle could for the rotation of the probe tip unit further explanation is given by the applicants.

Regarding claim 16, the disclosure does not particularly point what is representing "a connector." In the claim, it describes the connector as being "coupled to the probe tip." However, on page 6, lines 9-10, it states: "The planar transmission structure 106 is coupled to the metal probe tip 102..."

For examination purposes, the examiner is taking the position that "a connector" is the same as the planar transmission structure until the applicants give further explanation. Since claims 17-23 depend of off claim 16, they are also rejected for the above reason.

*Claim Rejections - 35 USC § 102*

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-6, 8, 12-16 and 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Reed, Jr. et al (3596228).

Regarding claim 1, Reed, Jr. et al disclose a resilient and rugged probe [see Figs. 1 and 2A] comprising a metal probe tip (combination of recess 34 and terminal portions 32), a resilient multi-layered dielectric substrate (sheet 16) [sheet 16 includes a dielectric membrane 22 and ground plane 24], coupled to the metal probe tip (32 and 34) [see Fig. 2A], a planar transmission

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structure (conducting lines 26), couple to the metal probe tip (32 and 34) and the resilient multi-layered dielectric substrate (16) and a fixed end (flanged 14) [See Fig. 1] coupled to the resilient multi-layered dielectric substrate (16) and the planar transmission structure (26).

Regarding claim 2, Reed Jr. et al disclose the metal probe tip (32 and 34) is suspended [see Fig. 1] without being supported by a medium [via pressure chamber 10].

Regarding claim 3, Reed Jr. et al disclose the metal probe tip (32 and 34) is used to probe an on-wafer (30) signal.

Regarding claim 4, Reed Jr. et al disclose the metal probe tip (32 and 34) may be able to rotate around an axis [via the x-axis of pressure chamber 10 in Fig. 1] with any angle [via unfastened the bolts 20 from the flange 14 and sheet 16].

Regarding claim 5, Reed Jr. et al disclose the metal probe tip (32 and 34) is able to lift and dive [see Fig. 2B].

Regarding claim 6, Reed Jr. et al disclose the fixed end (14) is used to support and hold the probe [see Fig. 1].

Regarding claim 8, Reed, Jr. et al disclose a resilient and rugged probe [see Figs. 1 and 2A] comprising a probe tip (combination of recess 34 and terminal portions 32), a planar transmission structure (conducting lines 26), couple to the probe tip (32 and 34), a multi-layered dielectric material (sheet 16) [sheet 16 includes a dielectric membrane 22 and ground plane 24], coupled to the planar transmission structure (26) and the probe tip (32 and 34) [see Fig. 2A], wherein the multi-layered dielectric material (16) allows a device (transistor 46) [see Fig. 3] to be embedded therein.



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Regarding claim 12, Reed Jr. et al disclose the metal probe tip (32 and 34) is suspended [see Fig. 1] without being supported by a medium [via pressure chamber 10].

Regarding claim 13, Reed Jr. et al disclose the metal probe tip (32 and 34) is used to probe an on-wafer (30) signal.

Regarding claim 14, Reed Jr. et al disclose the metal probe tip (32 and 34) may be able to rotate around an axis [via the x-axis of pressure chamber 10 in Fig. 1] with any angle [via unfastened the bolts 20 from the flange 14 and sheet 16].

Regarding claim 15, Reed Jr. et al disclose the metal probe tip (32 and 34) is able to lift and dive [see Fig. 2B].

Regarding claim 16, Reed Jr. et al disclose a resilient and rugged probe [see Figs. 1 and 2A] comprising a probe tip (combination of recess 34 and terminal portions 32), a connector (conducting lines 26), couple to the probe tip (32 and 34), a multi-layered dielectric material (sheet 16) [sheet 16 includes a dielectric membrane 22 and ground plane 24], coupled to the planar transmission structure (26) and the probe tip (32 and 34) [see Fig. 2A], wherein the multi-layered dielectric material (16) allows a device (transistor 46) [see Fig. 3] to be embedded therein.

Regarding claim 20, Reed Jr. et al disclose the metal probe tip (32 and 34) is suspended [see Fig. 1] without being supported by a medium [via pressure chamber 10].

Regarding claim 21, Reed Jr. et al disclose the probe tip (32 and 34) is used to probe the signal of the wafer (30).

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Regarding claim 22, Reed Jr. et al disclose the metal probe tip (32 and 34) may be able to rotate around an axis [via the x-axis of pressure chamber 10 in Fig. 1] with any angle [via unfastened the bolts 20 from the flange 14 and sheet 16].

Regarding claim 23, Reed Jr. et al disclose the probe tip (32 and 34) is able to lift and dive [see Fig. 2B].

### *Claim Rejections - 35 USC § 103*

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 9-11 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed Jr. et al (3596228).

Regarding claims 9-11 and 17-19, Reed Jr. et al disclose a multi-layered dielectric material (sheet 16) [sheet 16 includes a dielectric membrane 22 and ground plane 24], wherein

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the multi-layered dielectric material (16) allows a device (transistor 46) [see Fig. 3] to be embedded therein. However, they do not disclose the device that includes a multi-layered microwave circuit, a vertical connector or a matching circuit device. It would have been an obvious matter of design choice to have a device that includes a multi-layered microwave circuit, a vertical connector or a matching circuit device, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966), since it would have been found obvious absent persuasive evidence that the particular components of the claimed devices was significant.

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17. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter: regarding claim 7, the examiner was unable to locate a resilient and rugged probe comprising a fixed end is used as the probe to connect the planar transmission structure to a coaxial transmission structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermele M. Hollington whose telephone number is (703) 305-1653. The examiner can normally be reached on M-F (9:00-4:30 EST) First Friday Off.

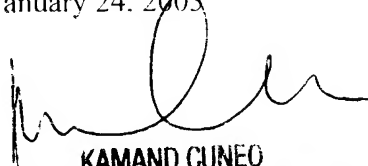
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (703) 308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Jermele M. Hollington  
Examiner  
Art Unit 2829

J. M. H.  
JMH

January 24, 2003

  
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